

## REMARKS

Applicant respectfully requests reconsideration of this application as amended. Claims 1-5, 7-21, 32-35, 44-46, and 48 are currently pending in this application.

### Response to 35 U.S.C. §103(a) Rejections

Claims 1, 2, 5, 7-9, 11-13, 15-19, 21, 32, 34, and 44-46 were rejected under 35 U.S.C. §103(a) as being obvious over McGee et al. (US 5,752,518) in view of Crowley et al. (US 5,372,138).

To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation to combine the reference teachings. Second there must be a reasonable expectation of success. Finally, the prior art reference must teach or suggest *all* of the claim limitations. MPEP 2143, citing *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

The combination of references in the Non-final Office Action does not teach or suggest all of the claim limitations and provides no motivation to combine the references.

The Office Action specifically noted that McGee disclosed optical fiber (cited as 44 in the Office Action, however Applicant assumes this was a mistake since 44 is described as a sheath in McGee et al. in column 4, line 63).

However, McGee et al. does not show at least one optical fiber bonded to at least one point along the inner surface of a coil-like enclosure. In McGee et al., the only reference made relevant to optical fiber is the description of “fiber optic channels” seen in Figure 7. McGee et al. makes no mention of bonding optical fiber to a coil-like enclosure.

The Office Action further noted that McGee et al. does not disclose a coil-like enclosure concentrically surrounding at least one optical fiber bonded along an inner

surface of the coil-like enclosure. The Office Action relies upon Figure 4 of Crowley et al. which allegedly “shows optical fiber bonded to inner surface of the coil-like enclosure to improve shielding and structural support for the intravascular probe or catheter”.

Crowley et al. does not show optical fiber bonded to an inner surface of a coil-like enclosure. In fact, Crowley et al. does not show any optical fiber bonding in the disclosure whatsoever.

Crowley et al. shows a coil and a center conductor and wires interacting with the center conductor in order to operate an acoustic imaging catheter as in column 4, lines 16-27.

However, Crowley et al. does not show an optical fiber being bonded to a coil and therefore fails to show each and every limitation of the claim and fails to sustain a rejection based on *prima facie* obviousness.

Neither McGee et al. nor Crowley et al. teaches an optical fiber bonded to an inner surface of a coil-like enclosure as claimed in claims 1, 15, 32, 34, 44, and 48

Furthermore, the combination of McGee et al. and Crowley et al. is also improperly motivated. The Office Action has not specifically provided or pointed to any support within the references in support of a motivation to combine.

In Crowley et al., the center conductor wire is shielded from electromagnetic waves (see, for example, column 4, lines 24-26 of Crowley et al.). The proposed modification of adding a coil-like enclosure for electromagnetic shielding in McGee et al. would render the proposed result unsatisfactory for the intended purpose. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984). Optical transmissions are known to be immune to electromagnetic waves and therefore one skilled in the art would not combine a coil-like enclosure for electromagnetic shielding around optical transmissions.

Accordingly, even if it is assumed for purposes of argument that some combination of isolated teachings from the cited references could possibly be made, it is not seen how any such combination would reach the claimed invention.

As set forth above, no motivation is found in any of the cited references to create a catheter with optical fiber bonded to the inner surface of a coil-like enclosure.

Claim 5 has been amended to more particularly point out what Applicant regards as the invention. The Office Action relied on McGee et al. to disclose an inflatable portion 64. The inflatable portion in McGee et al. was used as a viewing window but not for dilating a vessel. As amended, McGee et al. does not show an inflatable balloon for dilating a stenosed vessel as in the currently amended claim 5.

Furthermore, claim 34 requires the limitation of “processing the plurality of reflected light radiation signals to determine vessel and blood characteristics”. The Office Action has solely relied upon McGee et al. and Crowley et al. to support the rejection of claim 34.

However, in contradiction, the office action admits that McGee et al. and Crowley et al. do not specifically disclose a measurement of vessel and blood characteristics on page 4, line 13 of the Office Action. Therefore, all the limitations of claim 34 have not been addressed and the rejection cannot be sustained.

Claims 3, 4, 10, 14, 20, 33, and 35 were rejected under 35 U.S.C. §103(a) as being obvious over McGee et al. (US 5,752,518) in view of Crowley et al. (US 5,372,138) and further in view of Morantte, Jr. (US 4,587,972).

The Office Action relies on Morantte, Jr. to show measurement of vessel and blood characteristics such as hemodynamic characteristics and cites column 4, line 42-column 5, lines 17 in support.

However, the cited section in the Office Action does not disclose the optical fiber sensing or measuring any hemodynamic or vessel and blood characteristics but rather states in column 5, lines 11-17:

“generating laser energy through one or more fibers to permit the discharge of a predetermined amount of laser light or energy from the termini of such fibers for impingement of such laser energy upon a target object of known size, such as an obstruction within a blood vessel, for the precise destruction thereof.”

Therefore, the cited section in the Office Action uses laser light for destroying blood vessels rather than for measuring hemodynamic characteristics. There is no disclosure in Morantte, Jr. et al. showing the measurement of hemodynamic characteristics with optical fiber.

In conclusion, Applicant respectfully submits that in view of the amendments and arguments set forth herein, the applicable rejections have been overcome.


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No. 02-2666.

Respectfully submitted,

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Dated: 8/17, 2006

  
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